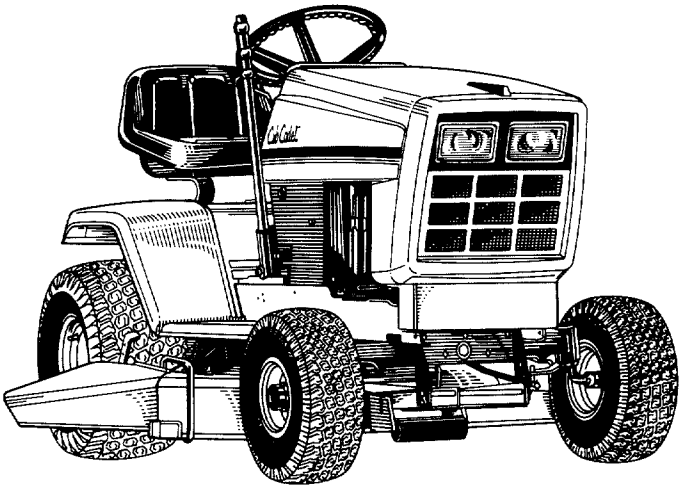
Cub Cadet®

Power Equipment

Owner's Manual

LAWN TRACTOR



Model Number
1405

Important:
Read Safety Rules and Instructions Carefully

Thank you for purchasing an American-built product

CUB CADET CORPORATION • P.O. BOX 360930 • CLEVELAND, OHIO 44136

NTED IN U.S.A. FORM NO. 772-4084

Cub Cadet
Power Equipment

LIMITED WARRANTY

Proper maintenance of your Cub Cadet equipment is the owner's responsibility. Follow the instructions in your owner's manual for correct lubricants and maintenance schedule. Your Cub Cadet dealer carries a complete line of quality lubricants and filters for your equipments engine, transmission, chassis and attachments.

RIDING MOWERS, LAWN TRACTORS, GARDEN TRACTORS, CUB CADET ATTACHMENTS AND HOME MAINTENANCE PRODUCTS.

FIRST YEAR

This limited warranty for residential and commercial users, covers any defect in material or workmanship in your Cub Cadet equipment for one year from the date of purchase for the first user purchaser.

Batteries have a one year prorated limited warranty with 100% replacement during the first three months.

We will replace or repair any part or parts without charge through your authorized Cub Cadet dealer.

SECOND YEAR

This limited warranty, for residential users only, covers any defects in material or workmanship in the drive train for two years from the date of purchase for the first user purchaser.

The drive train consists of the engine, engine cradle, drive shaft, drive shaft clutch, all parts enclosed by the transmission housing, rear axle housing, brakes and electric power take off (if so equipped). V-belts used for either the traction drive or any attachments are covered for one year only.

ITEMS NOT COVERED

The warranty does not cover routine maintenance items such as lubricants, filters (oil, fuel, air and hydraulic), cleaning, tuneups, brake and/or clutch inspection, adjustments made as part of normal maintenance, blade sharpening, set-up, abuse, accidents and normal wear. It does not cover incidental costs such as transporting your equipment to and from the dealer, telephone charges or renting a product temporarily to replace a warranted product.

There is no other express warranty.

HOW TO OBTAIN SERVICE

Contact your authorized Cub Cadet servicing dealer who sold you your Cub Cadet equipment. If this dealer is not available see the Consumer Yellow Pages under "lawn mowers" for the name of a dealer near you.

If you need further assistance in finding an authorized Cub Cadet servicing dealer, write or telephone:

Cub Cadet Corporation
Post Office Box 360930
Cleveland, Ohio 44136
Attn: Customer Service

Telephone: (216) 273-4550

HOW DOES STATE LAW APPLY?

This limited warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

CONTENTS

Section		Page	Section		Page
	Warranty	2	VI	Mowing	26
	Safe Operations	3		Optional Equipment and Accessories	27
	To The Owner	7		Maintenance Chart	28
	Serial No. Location	7		Trouble Shooting	29
I	Controls	8		Lubrication Table	31
II	Operation	11		Lubrication Guide	31
III	Adjustments	15		Specifications	34
IV	Maintenance	20		Slope Gauge	35
V	Off-Season Storage	25			

Instructions given with this symbol are for personal safety. Be sure to follow them.

WARNING

This unit is equipped with an internal combustion engine and should not be used on or near any unimproved forest-covered, brush-covered or grass-covered land unless the engine's exhaust system is equipped with a spark arrester meeting applicable local or state laws (if any). If a spark arrester is used, it should be maintained in effective working order by the operator.

In the State of California the above is required by law (Section 4442 of the California Public Resources Code). Other states may have similar laws. Federal laws apply on federal lands. A spark arrester muffler is available at your nearest engine authorized service center.

IMPORTANT

RULES FOR SAFE OPERATION

THIS SYMBOL POINTS OUT IMPORTANT SAFETY INSTRUCTIONS WHICH, IF NOT FOLLOWED, COULD ENDANGER THE PERSONAL SAFETY AND/OR PROPERTY OF YOURSELF AND OTHERS. READ AND FOLLOW ALL INSTRUCTIONS IN THIS MANUAL BEFORE ATTEMPTING TO OPERATE YOUR UNIT. FAILURE TO COMPLY WITH THESE INSTRUCTIONS MAY RESULT IN PERSONAL INJURY. WHEN YOU SEE THIS SYMBOL – **HEED ITS WARNING.**

WARNING

Your unit was built to be operated according to the rules for safe operation in this manual. As with any type of power equipment, carelessness or error on the part of the operator can result in serious injury. If you violate any of these rules, you may cause serious injury to yourself or others.

READ THIS OWNER'S MANUAL carefully in its entirety before attempting to assemble or operate this unit. Keep this manual in a safe place for future and regular reference and for ordering replacement parts.

2. This unit is a precision piece of power equipment, not a plaything. Therefore, exercise extreme caution at all times.
3. Know the controls and how to stop the machine quickly.

4. Do not allow children to operate vehicle. Do not allow adults to operate it without proper instruction. Only persons well acquainted with these rules of safe operation should be allowed to use your mower.
5. Wear sturdy, rough-soled work shoes and close-fitting slacks and shirts to avoid entanglement in the moving parts. Never operate a unit in bare feet, sandals, or sneakers.
6. To prevent injury, do not carry passengers or give rides. Keep children, pets and bystanders out of the area while mowing. Only the operator should ride on the unit and he/she should ride only in the seat.
7. Check overhead clearance carefully before driving under power lines, guy wires, bridges or low hanging tree branches; before entering or leaving buildings, or in any other situation where the operator may be struck or pulled from the unit, which could result in serious injury.
8. To maintain control of the unit and reduce the possibility of upset or collision, operate the tractor smoothly. Avoid erratic operation and excessive speed.
9. Keep the area of operation clear of all persons, particularly small children and pets. Stop engine when they are in the vicinity of your mower. Although the area of operation should be completely cleared of foreign objects, a small object may have been overlooked and could be accidentally thrown by the mower in any direction and cause injury to you or a bystander.
10. Always wear safety glasses or eye shields during operation or while performing an adjustment or repair, to protect eyes from foreign objects that may be thrown from the machine in any direction.
11. Stop the blade(s) when crossing gravel drives, walks or roads.
12. Disengage all attachment clutches and shift into neutral before attempting to start engine.
13. Before leaving the operator's position, disengage blades, place shift lever in neutral, engage parking brake, shut engine off and remove key.
14. Do not put hands or feet near or under rotating parts. Stay clear of the discharge opening at all times as the rotating blade(s) can cause injury.
15. Disengage power to attachment(s) and stop engine before making any repairs or adjustments. Disconnect the spark plug wire(s) and keep the wire(s) away from the plug to prevent accidental starting.
16. Before attempting to unclog the mower or discharge chute, stop the engine. The mower blade(s) may continue to rotate for a few seconds after the engine is shut off. Therefore, be sure the blade(s) have stopped completely. Disconnect the spark plug wire(s) and keep the wire(s) away from the plug(s) to prevent accidental starting.
17. Disengage power to attachment(s) when transporting or not in use.
18. For your safety, use the slope gauge included as part of this manual to measure slopes before operating this unit on a sloped or hilly area. If the slope is greater than 15° as shown on the slope gauge, do not operate this unit on that area or serious injury could result.
19. Do not stop or start suddenly when going uphill or downhill. Mow up and down face of steep slopes; never across the face. Use extreme caution if it is necessary to drive the tractor up an incline or back the tractor down an incline because the front of the tractor could lift and rapidly flip over backward which could cause serious injury.
20. Reduce speed on slopes and in sharp turns to prevent tipping or loss of control. Always keep the tractor in low gear when going down steep hills to take advantage of engine braking action. Choose a low enough gear so that you will not have to stop or shift while on the slope.
21. Stay alert for holes in terrain and other hidden hazards which may cause the unit to tip over.
22. Use care when pulling loads or using heavy equipment.
    A. Use only approved drawbar hitch points.
    B. Limit loads to those you can safely control.
    C. Do not turn sharply. Use care when backing.
    D. Use counterweight(s) or wheel weights when suggested in owner's manual.
23. Watch out for traffic when crossing or near roadways.
24. When using any attachments, never direct discharge of material toward bystanders nor allow anyone near vehicle while in operation.
25. Handle fuel with care. It is highly flammable.
    A. Use approved fuel container.
    B. Never remove cap or add fuel to a running or hot engine or fill fuel tank indoors. Wipe up spilled fuel. Always use original type vented cap.

C. Open doors if engine is run in garage. Exhaust fumes are dangerous. Do not run engine indoors.

26. Never store the machine with fuel in the fuel tank inside a building where ignition sources are present, such as hot water and space heaters, clothes dryers, and the like. Allow the engine to cool before storing in any enclosure.

27. To reduce fire hazard, keep engine and cutting deck free of grass, leaves or excessive grease.

28. Keep the vehicle and attachments in good operating condition, and keep safety devices in place. Use guards as instructed in operator's manual.

29. Keep all nuts, bolts and screws tight to be sure the equipment is in safe working condition.

30. The vehicle and attachments should be stopped and inspected for damage after striking a foreign object. The damage should be repaired before restarting and operating the equipment.

31. Do not change the engine governor settings or overspeed the engine.

32. When using the vehicle with mower, proceed as follows:

A. Mow only in daylight or in good artificial light.

B. Never make a cutting height adjustment while engine is running if operator must dismount to do so.

C. Shut the engine off and wait until the blade comes to a complete stop before removing the grass catcher.

D. Check blade mounting bolts for proper tightness at frequent intervals.

33. Check grass catcher bags frequently for wear or deterioration. For safety protection, replace only with new bag meeting original equipment specifications.

34. Look behind to make sure the area is clear before placing the transmission in reverse and continue looking behind while backing up. Disengage blades before shifting into reverse and backing up.

35. This unit should not be driven up a ramp onto a trailer or truck under power, because the unit could tip over, causing serious personal injury. The unit must be pushed manually to load properly.

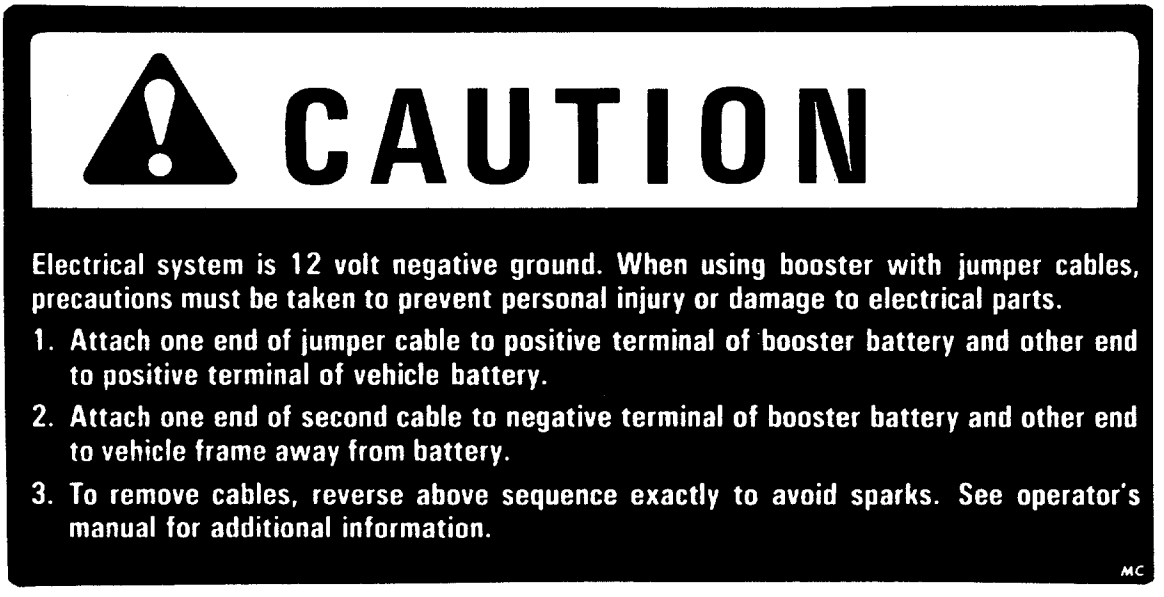
36. Check brake operation frequently. Adjust and service according to brake adjustment instructions in this manual.

PRODUCT GRAPHICS

Keep safety product graphics (decals) clean. Replace any safety graphic that is damaged, destroyed, missing, painted over or can no longer be read. Replacement safety graphics are available through your dealer.

CAUTION
LOOK!
BEFORE
BACKING
RECEIVE INSTRUCTION — Read operator's manual. Learn to operate this machine SAFELY. Don't risk INJURY or DEATH.
1. Before starting engine or operation: Be familiar with controls. Be in operator's position with transmission in neutral, PTO turned off, and brake depressed.
2. Keep shields in place. Keep away from moving parts.
3. NO RIDERS! Keep all people and pets a safe distance away.
4. Don't point mower discharge at people.
5. Avoid slopes. Tractors can be rolled over.
6. Before leaving operator's position:
Shut off PTO. Place transmission in neutral. Set brake lock. Shut off engine. Remove ignition key. Wait for all movement to stop before servicing or cleaning.
7. Do not fill gasoline tank when engine is running or while engine is hot. Tighten cap securely.
3432(231, 251, 271)

GENERAL SAFETY INSTRUCTIONS CAUTION - LOCATED ON THE FRAME COVER


CAUTION
Electrical system is 12 volt negative ground. When using booster with jumper cables, precautions must be taken to prevent personal injury or damage to electrical parts.
1. Attach one end of jumper cable to positive terminal of booster battery and other end to positive terminal of vehicle battery.
2. Attach one end of second cable to negative terminal of booster battery and other end to vehicle frame away from battery.
3. To remove cables, reverse above sequence exactly to avoid sparks. See operator's manual for additional information.
MC

CAUTION - BOOSTER BATTERY INSTRUCTIONS LOCATED UNDER THE SEAT ASSEMBLY

TO THE OWNER

Assembled in this manual are operation, lubrication, and maintenance instructions for the *Cub Cadet* 1405 Tractor. The material has been prepared in detail to help you better understand the correct care and efficient operation of your tractor. Before you operate the tractor, study this manual carefully. Additional copies may be ordered from your dealer at a nominal price.

Your local authorized dealer is interested in the performance you receive from your tractor. He has factory-trained servicemen, informed in the latest method of servicing tractors, modern tools, and original-equipment service parts which assure proper fit and good performance.

To obtain top performance and assure economical operation the tractor should be inspected, depending on its use, periodically, or at least once a year, by your authorized dealer.

When in need of parts, always specify the model, chassis, and engine serial numbers, including the prefix and suffix letters. Write these serial numbers in the space provided on this page.

Should you have difficulties with the unit, consult your authorized dealer. UNDER NO CIRCUMSTANCES SHOULD YOU ATTEMPT TO SERVICE THESE UNITS YOURSELF. Only your dealer is authorized to repair or replace units on this drive under the terms of the warranty. Should you desire additional information not found in this manual, contact your authorized *Cub Cadet* dealer.

SERIAL NUMBER LOCATION

NOTE

LEFT and RIGHT indicate the left and right sides of the tractor when facing forward in the driver's seat. Reference to FRONT indicates grille end of the tractor; to REAR the drawbar end.

Chassis serial number plate is on the left hand side of pedestal. (Refer to Figure 1.)

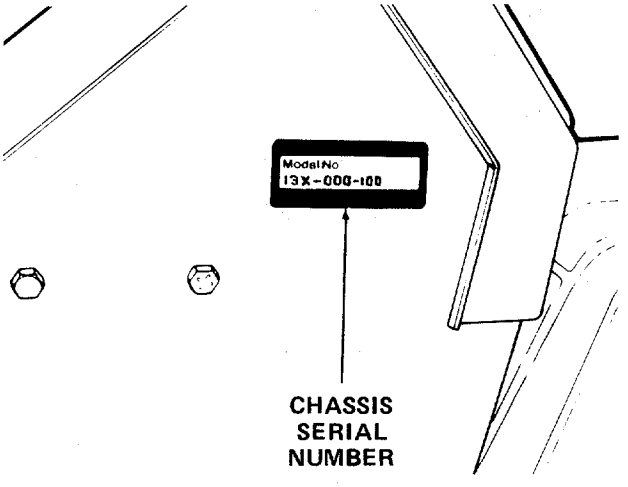


Figure 1

Engine serial number plate is located on the engine shroud. (Refer to Figure 2.)

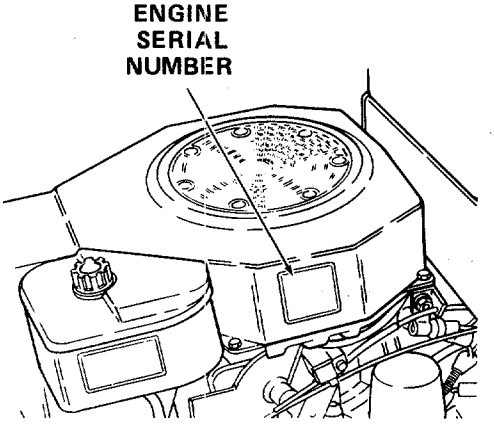


Figure 2

MODEL _____

DELIVERY DATE _____

SECTION I. CONTROLS

Your *Cub Cadet* Tractor has been safety engineered. Thoroughly acquaint yourself with all the instruments and controls before attempting to start or operate the tractor.

A. CHARGE INDICATOR

This instrument indicates whether the alternator is charging or the battery is discharging. If it shows discharge continuously, investigate the cause to avoid completely discharging the battery and possible damage to the charging circuit. (Refer to Figure 3.)

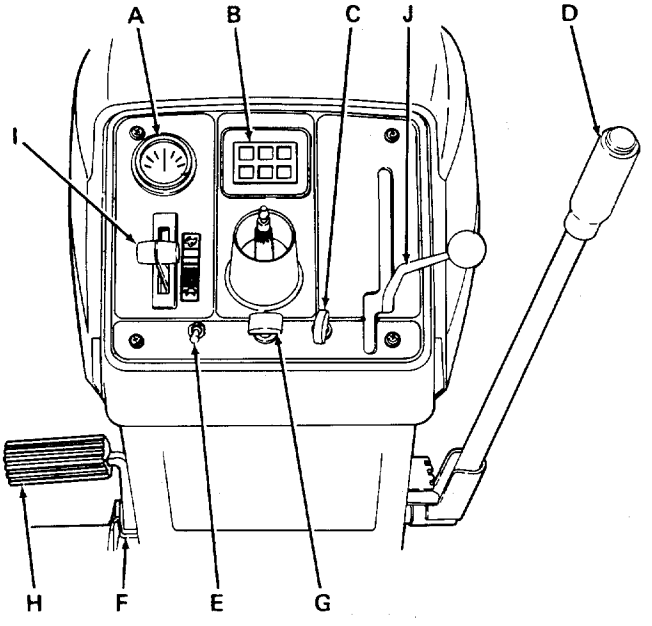


Figure 3

A. Charge Indicator
B. Electronic Monitor
C. Ignition Switch/Light Switch
D. Lift Handle
E. Power Take-Off (PTO)
F. Brake Pedal Lock
G. Choke Control
H. Brake/Clutch Pedal
I. Throttle Control Lever
J. Gear Shift Lever
K. Interlock Safety Switches (Not Shown)

B. ELECTRONIC MONITOR (Refer to Figure 4)

In Reverse Gear – will be illuminated when tractor is in reverse. Light must be off to start tractor.

Do Not Engage PTO – will be illuminated if PTO switch is engaged while tractor is in reverse.

NOTE

PTO will not be engaged with tractor in reverse – switch only will engage.

PTO On – light will be illuminated when PTO switch is engaged. Light must be off to start tractor.

Depress Pedal – light will illuminate when key is in "START" position and brake/clutch pedal is not fully depressed. Light must be off to start tractor.

Full Throttle Required (two indicators) – top light will be illuminated when the PTO is engaged. Bottom light will be illuminated when the light switch is on.

NOTE

The unit should be run at full throttle when using PTO operated equipment or when the headlights are on.

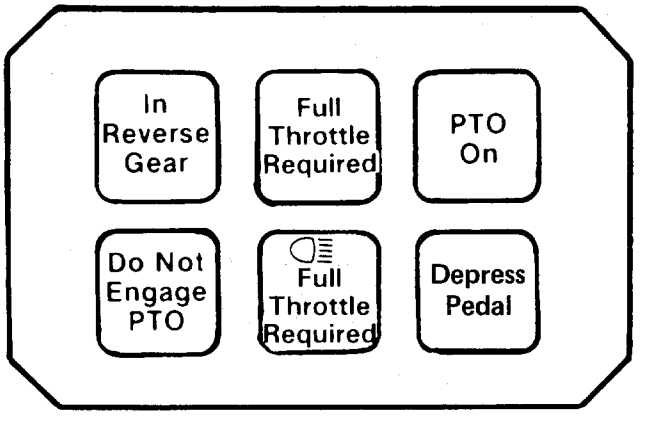


Figure 4

C. IGNITION/LIGHT SWITCH

NOTE

Remove the key from the tractor when the tractor is not in use to prevent accidental starting and battery discharge.

The combination lights and ignition switch is a four-position switch. (Refer to Figure 5.)

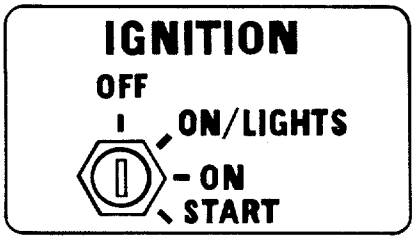


Figure 5

D. LIFT HANDLE
This lever is used to raise and lower equipment used with the tractor. The equipment can be set in six positions by depressing the button on the top of the lever and releasing it when the desired position is reached. (Refer to Figure 6).

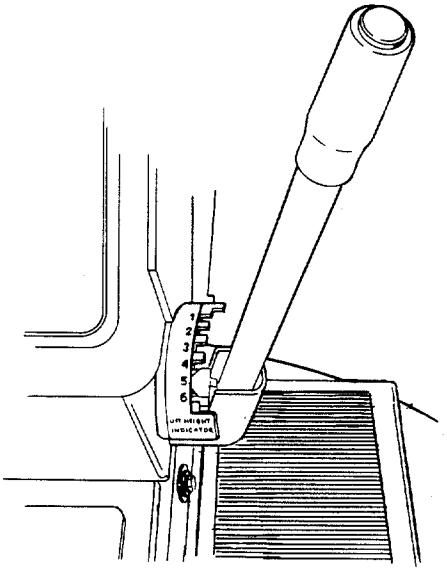


Figure 6

E. POWER TAKE-OFF (PTO)
The power take-off is an electric clutch operated by a toggle switch on the left side of the instrument panel. When PTO is engaged, throttle should be in fast position. (Refer to Figure 3.)

F. BRAKE PEDAL LOCK
Always lock the brake when tractor is parked on a grade. To lock the brake, depress brake/clutch pedal and place the brake pedal lock in the engaged position. (Refer to Figure 7.) To disengage the lock, press down on the pedal, lift the lock up and place it in the disengaged position.

G. CHOKE CONTROL
The choke control is located on the instrument panel directly below the steering column. The choke control is operated manually. Pull knob out to choke engine. Push knob in to open choke. (Refer to Figure 3.)

H. BRAKE/CLUTCH PEDAL
The brake/clutch pedal is located on the left side of the tractor. This pedal serves a dual purpose. When the brake/clutch pedal is slightly depressed, the drive belt is disengaged from the engine pulley. Fully depressing the brake/clutch pedal actuates the brakes to stop the tractor. (Refer to Figure 3.)

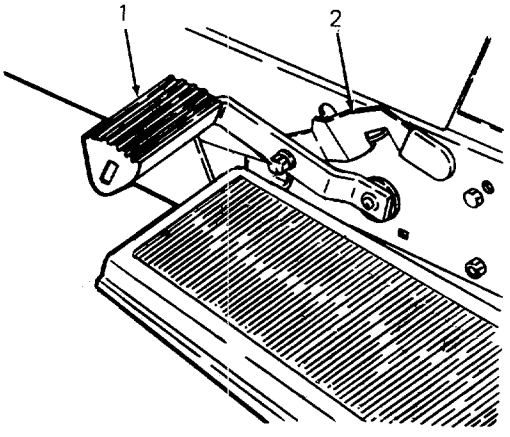


Figure 7

1. **Brake/Clutch Pedal**
2. **Brake Pedal Lock**

I. THROTTLE CONTROL LEVER
This lever controls the speed of the engine. When set in a given position, it will maintain a uniform engine speed. (Refer to Figure 3.)

When using power take-off operated equipment, best performance is achieved with the throttle lever in the "FAST" position.

"Turtle" This symbol shows slow position.

"Rabbit" This symbol shows fast position.

J. GEAR SHIFT LEVER

NOTE

Brake/clutch pedal should be slightly depressed before shift lever is moved.

The gear shift lever is located on the upper right hand side of the instrument panel. This lever is used to select various gear ratios provided in the transmission. There are five forward speeds and one reverse speed. Refer to "SPECIFICATIONS." (Refer to Figure 8.)

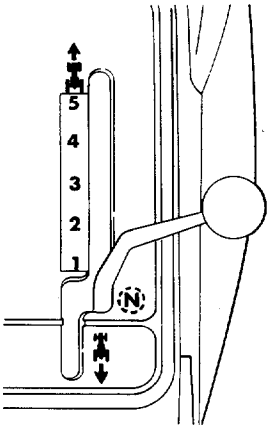


Figure 8

K. INTERLOCKS

This tractor is equipped with a safety interlock system for the protection of the operator. If the interlock system should ever malfunction, do not operate the tractor. Contact your authorized *Cub Cadet* dealer.

The safety interlock system prevents the engine from cranking or starting unless the brake/clutch pedal is fully depressed, and the PTO switch is in the "OFF" position.

The safety interlock system will automatically shut off the engine if the operator leaves the seat before placing the gear shift lever in neutral ("N") and engaging the brake pedal lock.

The safety interlock system will automatically disengage the PTO if the operator leaves the seat with the PTO on, or the unit is shifted into reverse with the PTO in the "RUN" position. To re-engage the PTO, shift into neutral ("N"), move the PTO switch into the "OFF" position, and then engage the PTO while seated.

FUEL TANK AND GAUGE

The fuel tank is on the pedestal, under the hood. The fuel tank cap gauge indicates the amount of fuel in the tank. Remove the cap gauge to fill the tank. Reinstall cap after filling fuel tank. (Refer to Figure 9.)

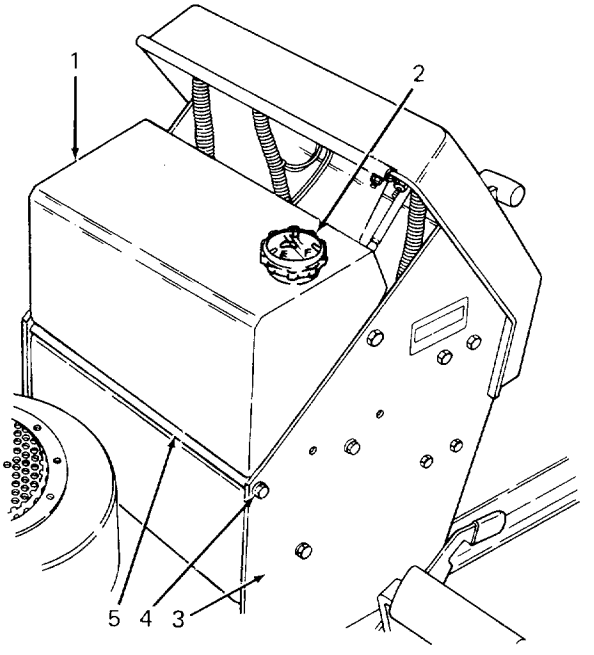


Figure 9

1. **Fuel Tank**
2. **Fuel Tank Cap Gauge**
3. **Pedestal**
4. **Hex Tapp Screw**
5. **Tube**

SECTION II. OPERATION

PRE-OPERATION CHECKLIST

1. Check oil level. The oil fill and dipstick are located on the right rear side of the engine. (Refer to Figure 10.)
2. Fill fuel tank with Regular or Unleaded gasoline.

ENGINE OIL REQUIREMENTS

***Cub Cadet* Low Ash Engine Oil**

Ambient Temperature	Viscosity (Grade SF OR SG)
Above 60°F	SAE 30
0° to 100°F	SAE 10W30 or 10W40
Below 20°F	SAE 5W20 or 5W30

DO NOT USE: Synthetic oil, non-detergent oil or other non-recommended oils.

DO NOT MIX different brands of oil.

OIL DIPSTICK CHECKS

Dipstick should be checked before starting the unit EVERY TIME.

Dipstick markings indicate upper and lower limits at a cold oil condition.

Never overfill engine oil.

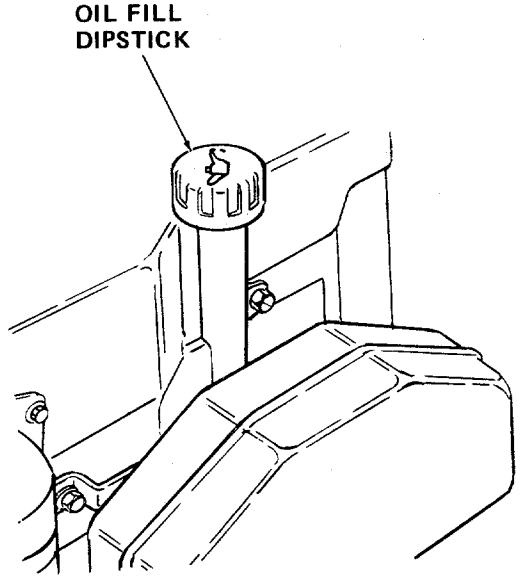


Figure 10

BEFORE OPERATING YOUR TRACTOR

1. Before you operate the tractor study this manual carefully. It has been prepared to help you operate and maintain your tractor with utmost efficiency.
2. Familiarize yourself with the operation of all the instruments and controls.
3. Fill the tank with either lead-free, low-lead or regular gasoline. Make sure before you fill the tank that the gasoline is clean and fresh.
4. Check tire inflation pressures.
5. Adjust the seat for operator's maximum comfort, visibility and complete control of the tractor.
6. Refer to various sections of the Owner's Manual for additional information.

STARTING THE ENGINE

WARNING

Do not operate tractor if the interlock system is malfunctioning. It is a safety device designed for protection of the operator.

NOTE

This unit is equipped with a safety interlock system for your protection. The safety interlock system prevents the engine from cranking or starting unless the brake/clutch pedal is fully depressed, and the PTO engagement switch is in the "OFF" position. The safety interlock system will automatically shut off the engine if the operator leaves the seat before placing the gear shift lever in neutral ("N") and engaging the brake pedal lock. The safety interlock system will automatically disengage the PTO if the operator leaves the seat with the PTO on, or the unit is shifted into reverse with the PTO in the "RUN" position. To re-engage the PTO, shift into neutral ("N"), move the PTO switch into the "OFF" position, and then engage the PTO while seated.

WARNING

During operation do not run the engine in confined area such as storage building any longer than is necessary. Immediately move the tractor outside into the air.

WARNING

Operator must be seated before starting tractor.

1. Operator must be seated.
2. Pull choke control knob out to full choke position. Less choking may be necessary due to variations in temperature, grade of fuel, etc. Little or no choking will be needed when the engine is warm.
3. Place the throttle in the "START" (1/2-3/4 throttle) position. Never start engine at full throttle.
4. Place the PTO switch to the "OFF" position.
5. Place the gearshift lever in neutral ("N").
6. Depress the brake/clutch pedal.
7. Turn the ignition key clockwise to the "START" position and release it as soon as the engine starts: however, do not operate the starter for more than 10 seconds at any one time. If the engine does not start within this time, turn the key "OFF" and wait a few minutes, then try again.
8. After the engine starts, slowly release the brake/clutch pedal and gradually push the choke control knob all the way in. Do not use the choke to enrich the fuel mixture, except as necessary to start the engine.

STOPPING THE ENGINE

CAUTION

Remove the key to prevent accidental starting and battery discharge if equipment is left unattended.

1. Return gear shift lever to neutral ("N"), engage the brake pedal lock and return PTO to "OFF" position.
2. Move the throttle lever to the "SLOW" position and allow the engine to idle for a short time before stopping.
3. Then turn the key to the "OFF" position. Remove key from ignition switch.

COLD WEATHER STARTING

WARNING

During operation do not run the engine in confined area such as storage building any longer than is necessary. Immediately move the tractor outside into the air.

NOTE

In cold weather the starting motor may disengage prematurely. This is caused by the engine firing once but failing to continue running. If this happens several times, the engine will be flooded and it will be necessary to leave the throttle in the "SLOW" position but push the choke in all the way; then turn the ignition key to the "START" position and slowly pull the choke out to the position which will cause the engine to start and continue running. If the engine falters after putting tractor into motion, pull the choke out part way until the engine runs smoothly, then gradually push the choke back in as the engine warms.

Engine starting is possible in cold weather providing the correct weight of engine oil is used, the battery is fully charged, and the proper starting procedure is followed. The best procedure for starting at temperatures near or below freezing is as follows:

WARNING

Operator must be seated before starting tractor.

1. Operator must be seated.
2. Pull the choke all the way out into the full choke position.
3. Place the throttle in the "START" (1/2-3/4 throttle) position. Never start engine at full throttle.
4. Place gear shift lever in neutral ("N"), depress brake/clutch pedal, and place PTO switch in "OFF" position.
5. Move the key switch into the "START" position and hold until the engine starts; however, do not operate the starter for more than 10 seconds at any one time. As soon as the engine starts, slowly push the choke in part way.

OPERATING IN COLD WEATHER

NOTE

When the engine is still cold it is acceptable to run the unit with the choke pulled out 1/4 inch until the engine is warmed up to prevent engine misfiring.

DRIVING THE TRACTOR

CAUTION

DO NOT shift gears while the engine clutch is engaged or while tractor is moving.

CAUTION

The brake/clutch pedal should be pushed slightly down in order to change gears.

CAUTION

Do not leave the seat of the tractor without depressing the brake/clutch pedal and engaging the brake pedal lock. If leaving the tractor unattended, also turn the ignition key off and remove the key.

CAUTION

Avoid sudden starts, excessive speed and sudden stops. Keep vehicle in gear when going down hills.

CAUTION

Do not rest your foot on the brake/clutch pedal while driving the tractor. This will lead to premature and excessive wear of the belt.

NOTE

When using power take-off operated equipment, best performance is achieved with the throttle lever in the "FAST" position.

1. Disengage the drive belt by pressing the brake/clutch pedal all the way down, and release the brake pedal lock. Move the gearshift lever to the desired speed.
2. Start the tractor in motion by slowly releasing the brake/clutch pedal and moving the throttle lever to the position where the engine operates best for the load to be handled. If smooth engagement cannot be obtained, an adjustment to the clutch rod may be required.

DRIVING ON SLOPES (Refer to "SLOPE GAUGE" on page 35 in order to help determine slopes where you may not operate safely.)

WARNING

Do not mow on inclines with a slope in excess of 15 degrees (a rise of approximately 2-1/2 feet every 10 feet). A riding mower could overturn and cause serious injury.

WARNING

Operate RIDING mowers up and down slopes, never across slopes.

CAUTION

Always drive up or down the face of a slope. Do not drive so that the tractor may tip over sideways.

Before operating the tractor on any slope, walk the slope to look for possible hazards such as rocks, mounds, ruts, stumps or other surface irregularities which could cause an upset.

Back the tractor with implement up the steepest portion of each slope you intend to work. If the tractor cannot negotiate the slope in reverse, the slope is too steep to be worked.

Avoid turns when driving on a slope. If a turn must be made, turn down the slope. Turning up a slope greatly increases the chance of a roll over.

Avoid stopping when driving up a slope. If it is necessary to stop while driving up a slope, start up smoothly and carefully to reduce the possibility of flipping the tractor over backward.

STOPPING THE TRACTOR

CAUTION

Always engage brake pedal lock, lower equipment and shut off engine before dismounting. Never try to start engine from ground.

Fully depress brake/clutch pedal. When tractor has stopped, raise brake/clutch pedal slightly and place gear shift lever in neutral ("N").

Before dismounting, always engage the brake pedal lock and turn the ignition "OFF." Also disengage the PTO switch.

OPERATING THE FRONT POWER TAKE-OFF CLUTCH (PTO) (Refer to Figure 11.)

1. Move the throttle lever back to the medium or "SLOW" position.
2. Place the speed control lever in neutral ("N").
3. Move PTO switch to "OFF" (A) position. Pull knob out and lift up to "START" (B) position and release.
4. Advance throttle to operating speed (full speed).
5. The operator must remain in tractor seat at all times. If operator should leave tractor seat without turning off the power take-off switch, the PTO will disengage.
6. PTO switch must be in the "OFF" (A) position when shifting the tractor into reverse or the PTO will disengage automatically. To re-engage the PTO, shift unit into neutral. Move PTO switch to "OFF" (A) position. Then pull knob out and lift up to "START" (B) position and release.

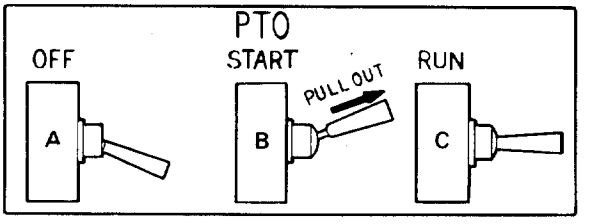


Figure 11

SECTION III. ADJUSTMENTS

ADJUSTING THE SEAT

Before starting the tractor, adjust the seat to the most comfortable driving position. Tilt the seat forward over the steering wheel, loosen the four adjustment bolts in the seat support, and slide the seat assembly forward or rearward to the position which is most comfortable for the operator. (Refer to Figure 12.)

Retighten the adjustment bolts after the seat is adjusted.

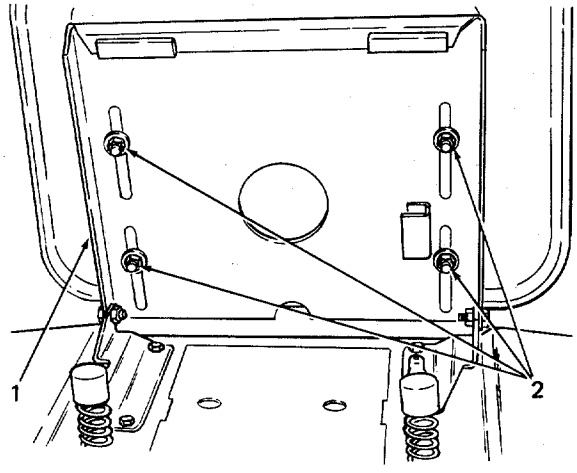


Figure 12

1. **Seat Support**
2. **Adjustment Bolt**

FRAME COVER REMOVAL

1. Remove two screws holding frame cover to frame in the step through area. (Refer to Figure 13.)

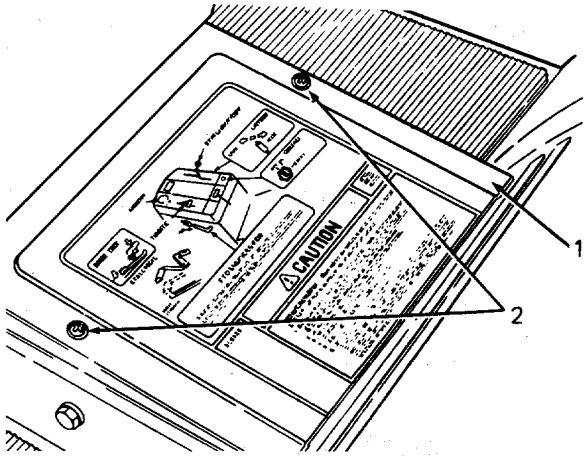


Figure 13

1. **Frame Cover**
2. **Screw**
2. Lift up and slide frame cover rearward from underneath the pedestal.
3. Reassemble frame cover using two screws.

CLUTCH ROD ADJUSTMENT

Clutch rod adjustment is necessary when belt slippage occurs, or when brake/clutch pedal bottoms out on the running board and does not return to the up position. If adjustment is needed, contact your authorized dealer.

ADJUSTING THE POWER TAKE-OFF CLUTCH

WARNING

To avoid possible injury, always disengage all clutches, move gear shift lever into neutral, depress the brake/clutch pedal, engage brake pedal lock and turn the ignition "OFF" before working on the machine.

The clutch is factory adjusted and should not require further adjustment under normal operating conditions. However, if the clutch fails to operate properly, check as follows:

Using a feeler gauge, check the air gap. (Refer to Figure 14.) Insert feeler gauge into one of three access slots located around the outside of the brake plate.

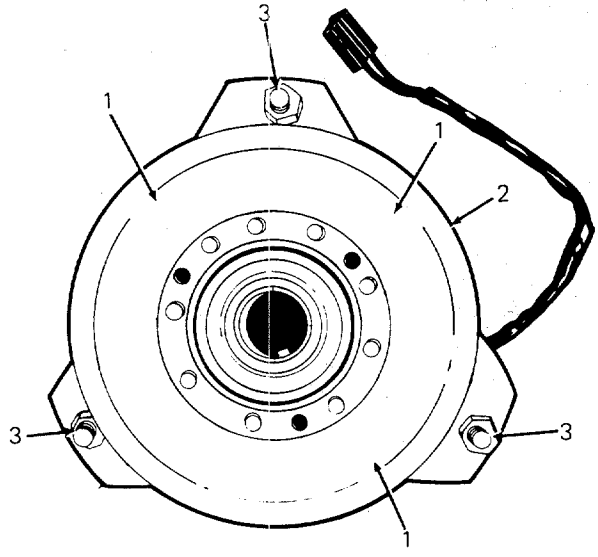


Figure 14

1. **Access Slots**
2. **Brake Plate**
3. **Self-Locking Nuts**

The air gap should be .010 to .015 inch. Adjust the self-locking nuts to obtain the proper clearance. Repeat the operation in all three access slots.

NOTE

If brake plate drags on clutch at .010 to .015 inch air gap, increase air gap to .020 inch. After two hours of use, recheck and set back to .010 to .015 inch.

If the above procedure does not work, see your authorized dealer.

ADJUSTING THE BRAKES

During normal operation on this machine, the brakes are subject to wear and will require periodic examination and adjustment.

To check brake adjustment, position the tractor on a level surface, place the gear shift lever in neutral ("N") position and perform the following checks:

1. Engage the brake pedal lock. If the unit can be pushed forward or rearward, the brake force must be increased.
2. Release the brake pedal lock. If the unit cannot be pushed forward or rearward, brake force must be decreased.

Refer to the following instructions to increase or decrease brake force.

To increase brake force, refer to Figure 18 and proceed as follows:

1. Place the tractor on a level surface, with the brake pedal lock disengaged.

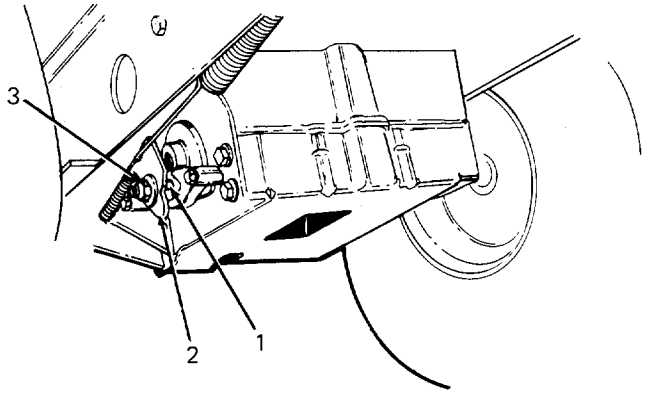


Figure 15

1. **Stop Bolt**
2. **Cam Lever**
3. **Top Lock Nut**

2. Tighten the top lock nut 1/4 turn at a time until tractor free movement begins to bind. Then back off the top lock nut 1/4 turn.

NOTE

If the previously described brake adjustment does not result in efficient brake operation, proceed to step number 3.

3. Refer to Figure 16 and tighten the hex nut on the end of the brake rod, under the spring as follows: remove the hairpin cotter and flat washer from the other end of the brake rod to disconnect it, and tighten the hex nut.
4. Reconnect the brake rod and secure it with flat washer and hairpin cotter.

Recheck the adjustment making certain correct adjustment is reached before operating the tractor.

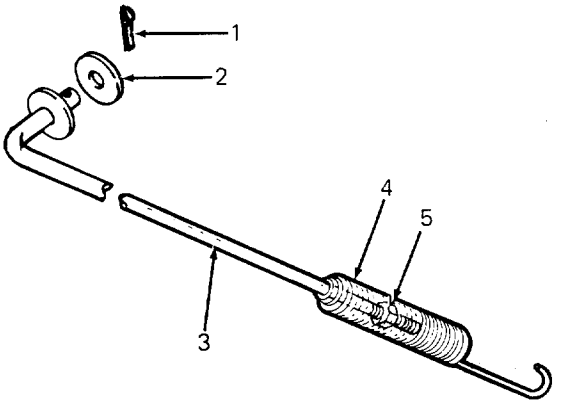


Figure 16

1. **Hairpin Cotter**
2. **Flat Washer**
3. **Brake Rod**
4. **Spring**
5. **Hex Nut**

To decrease brake force, refer to Figure 16 and proceed as follows:

1. Loosen the hex nut on the end of the brake rod under the spring as follows: remove the hairpin cotter and flat washer from the other end of the brake rod to disconnect it, and loosen the hex nut.

NOTE

At least 3 threads on the end of the brake rod must remain visible following this adjustment.

2. Reconnect the brake rod and secure it with flat washer and hairpin cotter.

Recheck the adjustment making certain correct adjustment is reached before operating the tractor. If the tractor still cannot be pushed following this adjustment, and with the brake pedal lock released, see your authorized *Cub Cadet* Dealer.

PIVOT BAR ADJUSTMENT BOLTS

CAUTION

The tractor must be checked every 50 hours of tractor operation for play between the front axle and the pivot bar adjustment bolts. Both adjustment bolt heads must fit against the front axle. If play is discovered, the pivot bar adjustment bolts must be adjusted.

If play is discovered between the front axle and the pivot bar adjustment bolt heads, adjust both bolts as follows: (Refer to Figure 17.)

1. Loosen jam nut 3 to 4 turns or as required.
2. Turn pivot bar adjustment bolt counterclockwise until it hits against the front axle.
3. Tighten jam nut.
4. Repeat the above steps for the other pivot bar adjustment bolt.

WHEEL ALIGNMENT

The front wheels should toe-in approximately 1/8 inch.

Measure the distances A and B on the front wheels. (Refer to Figure 18.)

NOTE

Dimension B should be approximately 1/8 inch less than dimension A.

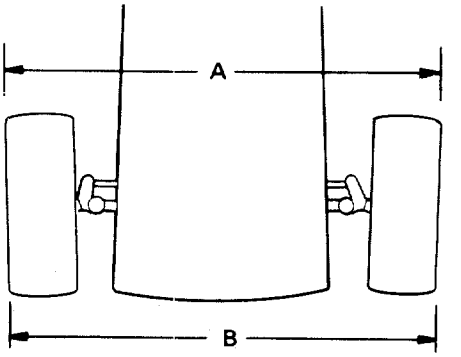


Figure 18

FRONT WHEEL ADJUSTMENTS

To adjust the toe-in remove one ball joint, loosen lock nuts "C" at the ball joint and turn the tie rod ball joint in or out as required. (Refer to Figure 19.)

NOTE

Tie rod has a bend in the center for clearance of castle nut on pivot bar. Bend must remain down as shown in Figure 19.

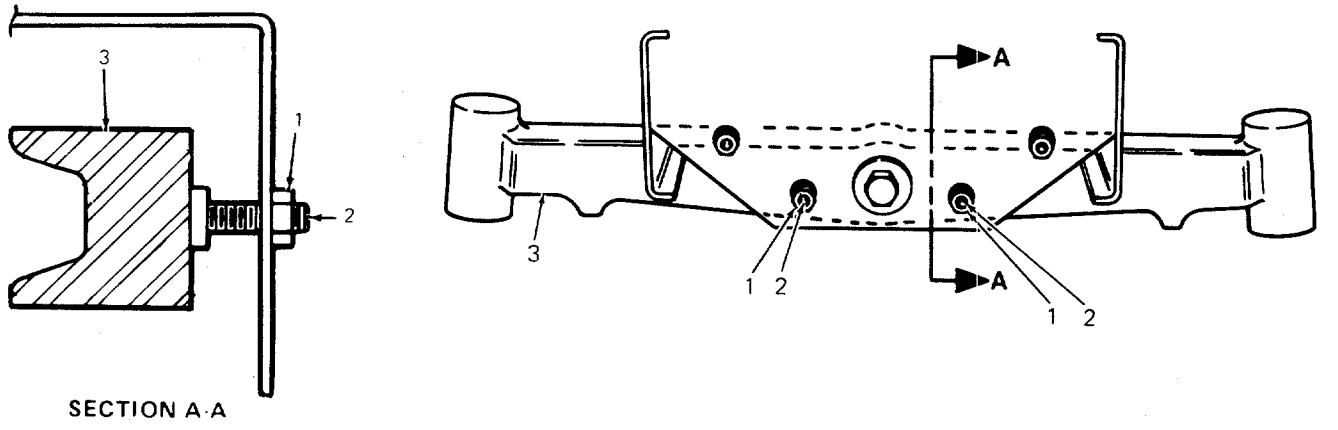


Figure 17

1. **Jam Nut**
2. **Pivot Bar Adjustment Bolts**
3. **Front Axle**

TURNING RADIUS

CAUTION

Be sure all parts are tightened after completing the following adjustment.

The front wheels should have an equal angle for left and right turns. If adjustment is necessary, remove ball joint and loosen lock nut "D." (Refer to Figure 19.) Turn the drag link ball joint clockwise or counterclockwise as required.

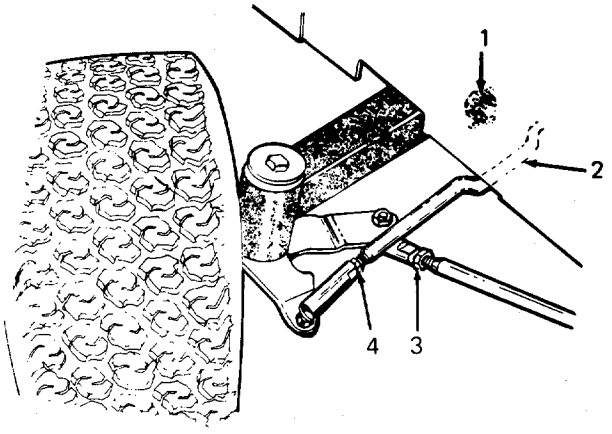


Figure 19
Tie Rod and Drag Link Ball Joints

1. **Castle Nut at Pivot Bar**
2. **Bend in Tie Rod**
3. **Lock Nut "D"**
4. **Lock Nut "C"**

CARBURETOR ADJUSTMENTS

WARNING

If any adjustments are made to the engine while the engine is running (e.g., carburetor), disengage all clutches and blades. Keep clear of all moving parts and be careful of heated surfaces and mufflers.

WARNING

To avoid injury or an accident, be sure the brake pedal is in the locked position, transmission is in neutral, and any equipment is disengaged before starting engine to make carburetor adjustments.

WARNING

Carbon monoxide fumes can be fatal! Do not make any adjustments to the carburetor in a confined area such as a storage building. Move the tractor outside into the air.

NOTE

Carburetor adjustments should be made only after the engine has warmed up.

This engine is equipped with a fixed main jet carburetor. (Refer to Figure 20.)

The carburetor is designed to deliver the correct fuel-to-air mixture to the engine under all operating conditions. The main fuel jet is calibrated at the factory and is not adjustable. The low idle fuel adjusting needle is also set at the factory and normally does not need adjustment.

If, however, the engine is hard-starting or runs roughly or stalls at low idle speed, it may be necessary to adjust or service the carburetor.

Turning the low idle adjusting needle in (clockwise) decreases the supply of fuel to the carburetor. This gives a leaner fuel-to-air mixture. Turning the adjusting needle out (counterclockwise) increases the supply of fuel to the carburetor. This gives a richer fuel-to-air mixture. Setting the needle midway between the lean and rich position will usually give the best results.

NOTE

Engines operating at altitudes above approximately 1829 m (6000 ft) may require a special "high altitude" main jet.

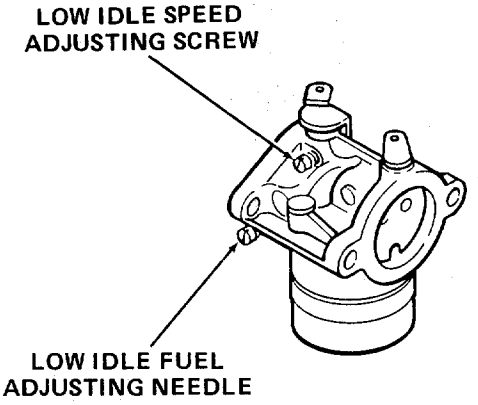


Figure 20. Fixed Main Jet Carburetor

To Adjust Carburetor

1. With the engine stopped, turn the low idle fuel adjusting needle in (clockwise) until it bottoms *lightly*.

NOTE

The tip of the low idle fuel adjusting needle is tapered to critical dimensions. Damage to the needle and the seat in carburetor body will result if the needle is forced.

2. **Preliminary Low Idle Fuel Needle Setting:** Turn the adjusting needle out (counterclockwise) from lightly bottomed 1 full turn.
3. Start the engine and run at half throttle for five to ten minutes to warm up. The engine must be warm before making final settings (steps 4, 5, and 6).
4. **Low Idle Speed Setting:** Place the throttle control into the "idle" or "slow" position. Set the low idle speed to 1200 rpm (±75 rpm) by turning the low idle speed adjusting screw in or out. Check the speed using a tachometer.
5. **Low Idle Fuel Needle Setting:** Place the throttle into the "idle" or "slow" position.

   Turn the low idle fuel adjusting needle out (counterclockwise) from the preliminary setting until the engine speed decreases (rich). Note the position of the needle.

   Now turn the adjusting needle in (clockwise). The engine speed may increase, then it will decrease as the needle is turned in (lean). Note the position of the needle.

Set the adjusting needle midway between the rich and lean settings. (Refer to Figure 21.)

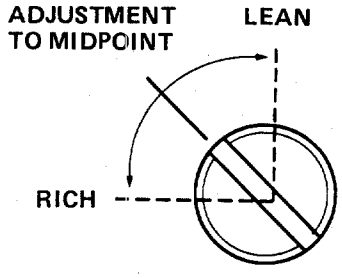


Figure 21. Optimum Low Idle Fuel Setting

NOTE

The actual low idle speed depends on the application–refer to equipment manufacturer's recommendations. The recommended low idle speed for basic engines is 1200 rpm. To ensure best results when setting the low idle fuel needle, the low idle speed must not exceed 1500 rpm.

6. Recheck the idle speed using a tachometer. Readjust the speed as necessary.

SECTION IV. MAINTENANCE

ENGINE OIL

The engine crankcase is filled with ship-away oil. This oil may be used for the first 5 hours of engine operation at temperatures between 0 degrees F and 90 degrees F. If temperatures are not within this range, drain the oil from the oil filter, if installed, and crankcase and replace with new oil as specified in the **"LUBRICATION TABLE."** The engine oil must be drained and replaced with new oil after 5 hours of engine operation and then after every 100 hours.

To aid starting, the selection of crankcase lubricating oils should be based on the lowest anticipated temperatures until the next drain period.

Cub Cadet Low Ash Engine Oil meeting API Service Classification SF or SG is recommended. For maximum engine life select API SF or SG oils with lowest levels of barium, calcium, or magnesium additives and minimum ash content (approximately 0.5%). Lubricant suppliers will normally furnish this information on their engine oils.

Multi-viscosity numbered oils such as SAE 10W-30 or SAE 10W-40 can be used above 32 degrees Fahrenheit.

OIL LEVEL CHECK

CAUTION

The oil level should be checked every hour during the first 5 hours of operation.

Before each use, the oil level of the engine crankcase should be checked to see that it is filled to correct level. Close monitoring of the oil level during the first 5 hours of operation of the engine is especially important. Always keep the oil level between the "FULL" and the "LOW" marks on the dipstick.

1. Clean the area around the oil full tube and oil fill cap/dipstick to prevent debris from entering the crankcase.
2. Unthread and remove oil fill cap/dipstick. Wipe oil off dipstick.
3. Insert dipstick into tube until cap rests on top of the tube. DO NOT thread cap into the tube at this time.
4. Remove dipstick and check oil level. Add proper oil if necessary.
5. Reinstall oil fill cap/dipstick by threading cap securely into tube.

CAUTION

Oil fill cap/dipstick MUST BE TIGHTENED SECURELY INTO TUBE AT ALL TIMES WHEN ENGINE IS OPERATING.

NOTE

Check the oil level only while the engine is stopped and tractor is level.

NOTE

The engine oil level should be checked prior to every use.

OIL CHANGE PROCEDURE

NOTE

The engine oil should be changed after the first 5 hours of operation. Then oil should be changed after every 100 hours of operation.

Refer to the **MAINTENANCE CHART** and the **LUBRICATION TABLE** for information regarding the frequency of oil change and the quantity and type of oil needed. While the engine oil is warm, proceed as follows:

WARNING

Oil may be hot. Use care to avoid burns from hot oil.

1. Place the tractor on a level surface, and engage brake pedal lock. Remove the drain plug and collect the old oil in an adequate container. (Refer to Figure 22.)
2. Remove the oil filter by turning it counterclockwise.

3. Apply a light coat of oil to rubber seal on oil filter. Install filter turning it clockwise. Filter should be snug plus 1/2 turn.
4. Replace the drain plug.
5. Refer to **"FILLING THE CRANKCASE"** and **"LUBRICATION GUIDE"** and refill the crankcase.

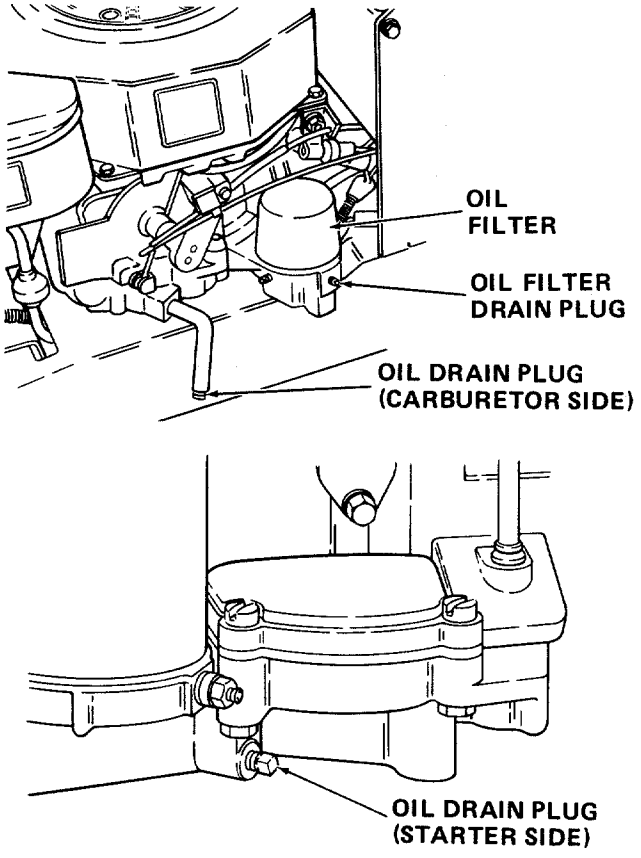


Figure 22. Oil Drain Plugs, Oil Filter, and Oil Filter Drain Plug

FILLING THE CRANKCASE

The oil capacity is 4 pints. To fill the crankcase, proceed as follows.

NOTE

Never overfill the engine crankcase. Engine may overheat and/or damage may result if the crankcase is below the "LOW" mark or over the "FULL" mark. For oil capacity refer to the **SPECIFICATIONS** and **LUBRICATION TABLE** sections.

1. Clean the area around the oil full tube and oil fill cap/dipstick to prevent debris from entering the crankcase.
2. Unthread and remove oil fill cap/dipstick. POUR SLOWLY, and fill to the full mark on the dipstick.
3. Reinstall oil fill cap/dipstick by threading cap securely into tube.

CAUTION

Oil fill cap/dipstick MUST BE TIGHTENED SECURELY INTO TUBE AT ALL TIMES WHEN ENGINE IS OPERATING.

SERVICE PRECLEANER AND AIR CLEANER ELEMENT

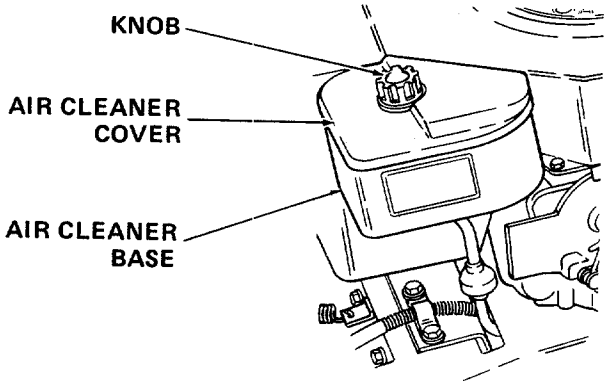


Figure 23. Air Cleaner Housing Components

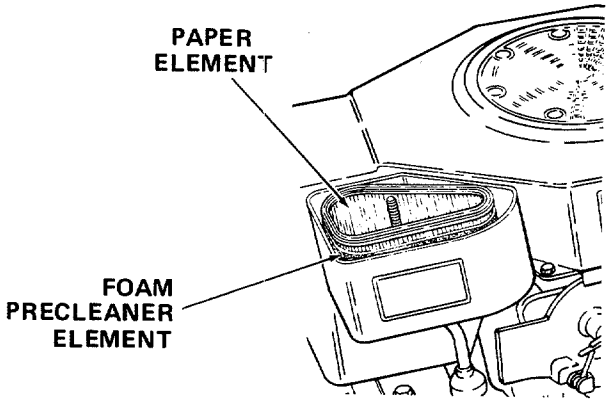


Figure 24. Air Cleaner Elements

Check the air cleaner daily or before starting the engine. Check for and remove any heavy buildup of dirt and debris, and loose or damaged components.

NOTE

Operating the engine with loose or damaged air cleaner components could allow unfiltered air into the engine causing premature wear and failure.

Service Precleaner

Wash and reoil the precleaner every 25 hours of operation (more often under extremely dusty or dirty conditions).

1. Remove the air cleaner cover retaining knob, air cleaner cover, and paper element with precleaner.
2. Remove the precleaner from the paper element.
3. Wash the precleaner in warm water with detergent. Rinse the precleaner thoroughly until all traces of detergent are eliminated. Squeeze out excess water (do not wring). Allow the precleaner to air dry.
4. Saturate the precleaner with new engine oil. Squeeze out all excess oil.
5. Reinstall the precleaner over the paper element.
6. Reinstall the paper element with precleaner, air cleaner cover, and air cleaner cover retaining knob. Make sure the knob is tightened securely.

Service Paper Element

Every 100 hours of operation (more often under extremely dusty or dirty conditions), check the paper element. Clean or replace the element as necessary.

1. Remove the precleaner from the paper element.
2. Gently tap the flat side of the paper element to dislodge dirt. Do not wash the paper element or use pressurized air, as this will damage the element. Replace a dirty, bent, or damaged element. Handle new elements carefully; do not use if the sealing surfaces are bent or damaged.
3. When servicing the air cleaner, check the air cleaner base. Make sure it is secured and not bent or damaged. Also check the air cleaner cover for damage or improper fit. Replace all damaged air cleaner components.
4. Reinstall the paper element, precleaner, air cleaner cover, and air cleaner cover retaining knob. Make sure the knob is tightened securely.

Properly cleaned and installed air cleaner elements significantly contribute to prolonged engine life.

CLEANING ENGINE

This tractor has an air-cooled engine. Air must be able to circulate freely around the engine, through the screen, shroud, and over the fins of the cylinder head and cylinder block. Keep these areas free of accumulated dirt and trash or engine will overheat and result in damaged moving parts.

SPARK PLUGS

WARNING

To avoid possible injury, be sure engine is off and cool before making any adjustment or repairs.

NOTE

Remove all dirt from around the spark plug before removing.

To remove spark plug, always use a spark plug wrench. Check gap after every 100 hours of operation.

Replace a defective plug with a new plug. Set gap at .040 inch. (Refer to Figure 25.) Tighten plug to 18-22 ft-lbs. See your authorized dealer for the correct replacement plug.

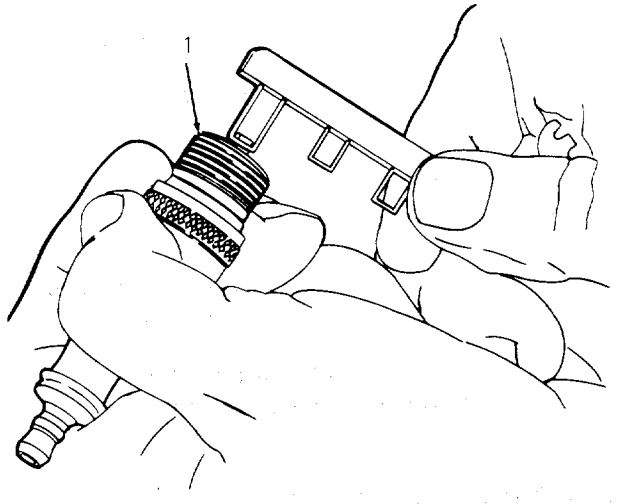


Figure 25

1. **Spark Plug**

FUEL FILTER

WARNING

Do not replace fuel filter when engine is hot.

The engine is equipped with an in-line fuel filter. Visually inspect the filter periodically, and replace when dirty.

FIVE SPEED TRANSMISSION

The transmission is lubricated and sealed at the factory and does not require checking. If disassembled for any reason, lubricate with 24 ounces of Bentonite grease, available at your authorized *Cub Cadet* Dealer.

DRIVE BELT REPLACEMENT

If drive belt replacement is required, contact your authorized *Cub Cadet* Dealer.

BATTERY INFORMATION

WARNING

A. Battery acid must be handled with great care as contact with it can burn and blister the skin. It is also advisable to wear protective clothing (goggles, rubber gloves and apron) when working with it.*

B. Should battery acid accidentally splatter into the eyes or onto the face, rinse the affected area immediately with clean cold water. If there is any further discomfort, seek prompt medical attention.

C. If acid spills on clothing, first dilute it with clean water, then neutralize with a solution of ammonia/water or baking soda/water.

D. Since battery acid is corrosive, do not pour it into any sink or drain. Before discarding empty electrolyte containers, rinse them with a neutralizing solution.

E. NEVER connect or disconnect charger clips to battery while charger is turned on as it can cause sparks.

F. Keep all lighted materials (cigarettes, matches, lighters) away from the battery as the hydrogen gas generated during charging can be combustible.

G. As a further precaution, only charge the battery in a well-ventilated area.

* Always shield eyes and protect skin and clothing when working near batteries.

DANGER

BATTERIES CONTAIN SULFURIC ACID AND MAY CONTAIN EXPLOSIVE GASES (when electrolyte has been added).

KEEP BATTERIES OUT OF THE REACH OF CHILDREN.

MAINTENANCE OF BATTERY

1. Check electrolyte level periodically (at least every two weeks). Keep the level to the split rings. Use only distilled water or a good quality drinking water. Never add acid or any other chemicals to the battery after initial activation.
2. The battery should be checked with a hydrometer after every 25 hours of operation. If the specific gravity is less than 1.225, the battery should be recharged. Maximum charge rate 5 amps.
3. Coat the terminals and exposed wire with a thin coat of grease or petroleum jelly for longer service and protection against corrosion.
4. The battery should be kept clean. Any deposits of acid should be neutralized with baking soda and water. Be careful not to get this solution in the cells.
5. Avoid tipping the battery. Even a "sealed" battery will leak electrolyte when tipped.

STORAGE OF THE BATTERY

1. When storing battery for extended periods, disconnect battery cables. Removing battery from unit is recommended.
2. Keep the exterior of the battery clean, especially the top. A dirty battery must be stored with a full charge. A dirty battery will discharge itself.
3. Check the battery with a hydrometer. The battery must be stored with a full charge. A discharged battery will freeze.

Specific Gravity	Freezing Point
1.265	−71°F
1.250	−62°F
1.200	−16°F
1.150	5°F
1.100	16°F

NOTE

All batteries discharge during storage.

4. Recharge battery whenever the specific gravity is less than 1.225, before returning to service or every two months, whichever comes first.

COMMON CAUSES FOR BATTERY FAILURE

1. Overcharging
2. Undercharging
3. Lack of water
4. Loose hold downs and/or corroded connections
5. Excessive loads
6. Battery electrolyte substitutes
7. Freezing of electrolyte

NOTE

These failures do not constitute warranty.

BATTERY REMOVAL OR INSTALLATION

WARNING

When removing the battery, follow this order of disassembly to prevent your wrench from shorting against the frame.

1. Remove the Negative cable.
2. Remove the Positive cable.

To install a battery:

1. Attach the Positive cable.
2. Attach the Negative cable.

JUMP STARTING

WARNING

Failure to use this starting procedure could cause sparking, and the gases in either battery could explode.

1. Attach the first jumper cable from the positive terminal of the good battery to the positive terminal of the dead battery.
2. Attach the second jumper cable from the negative terminal of the good battery to the FRAME OF THE UNIT WITH THE DEAD BATTERY.

TIRES

Keep the pneumatic tires properly inflated. Overinflation will cause operator discomfort.

Underinflation will cause short tire life.

Inflate the front and rear tires for normal or heavy load operations as shown in the following table:

Tire Size	Pounds per Square Inch
Front Tires 15 x 6-6	12
Rear Tires 20 x 10-8	10

Always see that the tire valve caps are in place and tightened securely to prevent loss of air and protect the valve core and stem.

Do not overload the tractor tires by mounting equipment on the tractor which exceeds the load capacity of the size of the tires on the tractor.

MOUNTING TIRES ON THE RIM

After mounting a new or old tire on the rim, inflate it to 20 pounds pressure to seat the tire bead on the rim flange. Then deflate the tire to the correct operating pressure.

NOTE

After the first 10 hours of operation, check and retorque the front wheel bolts to 35 ft-lbs. and rear wheel bolts to 23 ft-lbs. to make sure they have seated properly.

SECTION V. OFF-SEASON STORAGE

If the machine is to be inoperative for a period longer than 30 days, the following procedures are recommended:

WARNING

Never store engine with fuel in tank indoors or in poorly ventilated enclosures, where fuel fumes may reach an open flame, spark or pilot light as on a furnace, water heater, clothes dryer, etc.

1. Remove all gasoline from fuel tank to prevent gum deposits from forming on these parts and causing possible malfunction of engine.

   Run engine until engine starts to falter, then use choke to continue engine operation until all fuel in tank and carburetor is exhausted. Remove fuel line at tank or carburetor and drain any remaining gasoline from system.

WARNING

Drain fuel into approved container outdoors, away from open flame.

Fuel left in engine during warm weather deteriorates and will cause serious starting problems.

2. Remove spark plug and pour one (1) ounce of engine oil through spark plug hole into cylinder. Crank engine several times to distribute oil. Replace spark plug.
3. Clean the engine and the entire tractor thoroughly.
4. Lubricate all lubrication points and wipe the entire machine with an oiled rag in order to protect the surfaces.
5. Follow battery storage instructions on page 23.
6. Protect tires and seat from sunlight. Inflate tires at regular intervals.

SECTION VI. MOWING

STARTING THE MOWER

NOTE

In heavy grass, full throttle may be needed when starting the mowing deck.

With the engine running at idle speed, start the power take-off clutch (see page 14, Figure 11). Starting the mower with the engine in idle will reduce wear on the drive belt. Increase engine speed to full throttle.

STOPPING THE MOWER

Move the power take-off (PTO) switch to "OFF" and reduce engine speed.

MOWING

WARNING

To avoid possible injury, do not allow anyone in the area opposite the discharge chute while mowing. Although the area has been supposedly cleared of foreign objects, small objects may be discharged by the mower.

WARNING

Never direct discharge of material toward bystanders or allow anyone near the machine while in operation.

For best results it is recommended that the first two laps should be cut with the discharge thrown towards the center. After the first two laps, reverse the direction to throw the discharge to the outside for the balance of cutting. This will give a better appearance to the lawn.

Do not cut the grass too short, as the mower will tend to scalp the grass. Short grass invites weed growth and yellows quickly in dry weather.

Mowing should be done with the engine at full throttle. Do not mow at high ground speed.

During certain times of the year and under some conditions, the mower may leave streaks of uncut material.

Streaking may occur when attempting to mow heavy weeds and tall grass. Under these conditions it may be necessary to go back over the cut area a second time to get a clean cut.

The following practices will help eliminate streaking:

1. Mow the area more often so the grass doesn't get too tall and heavy.
2. Operate the tractor at full throttle and lower forward speeds.
3. Keep the blades sharp and replace blades when worn.
4. Follow the mowing procedure shown in Figure 26.

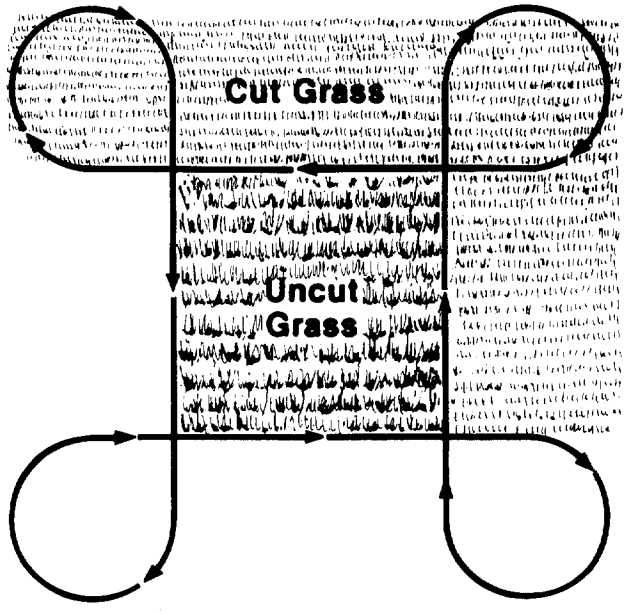


Figure 26

OPTIONAL EQUIPMENT AND ACCESSORIES

When you purchased your tractor, you probably had it completely equipped for your particular needs at the time. However, later you may wish to obtain optional equipment or accessories. These items and other allied equipment can be purchased from, and installed by, your authorized dealer.

The tractor is used for so many different types of work, and because it is called on to operate under so many different conditions, a variety of equipment is available to adapt it to the requirements of the user. Refer to equipment catalog.

MAINTENANCE CHART

Operation to be performed	Before each use	10 hours or once a month	50 hours	100 hours or yearly	Before storage
Clean grille (front & backside) & engine inlet air screen		More often under dirty conditions X			
Check engine oil level	X				
Fill fuel tank	X				
Change engine oil and filter	After first 5 hours			X	
Check battery electrolyte level		X			
Grease front axle pivot bolt		X	X		
Lubricate steering knuckles (2) and steering arm		X			
Retorque rear and front wheel bolts		After first 10 hours X		X	
Lubricate brake shaft			X		
Clean cooling fins & external surfaces			X		
Service air cleaner				More often under dirty conditions	
Check spark plug				X	X
Check and regrease front wheel bearings				X	X
Drain fuel					X
Pivot bar adjustment bolt			X		
Movable idler bracket			X		
Steering gear			X		

NOTE

Maintenance information for optional equipment may be found in the manual which is included with the specific piece of optional equipment.

TROUBLE SHOOTING

Possible Cause	Possible Remedy
HARD TO START	
No gasoline in fuel tank or carburetor	Fill the tank with gasoline. Check the fuel line and carburetor.
Fuel line or carburetor clogged	Clean the fuel line and carburetor with commercial carburetor cleaner.
Water in gasoline	Drain the fuel tank and carburetor. Use new fuel and dry the spark plug.
Choked improperly. Flooded engine	Follow the starting instructions.
Defective ignition or loose wiring	Check the wiring, spark plug, or fuse.
Defective battery	Check and service. Refer to **"BATTERY."**
Spark plug dirty or improper gap	Clean, adjust the gap to .040-inch or replace the plug.
ENGINE OPERATES IRREGULARLY OR KNOCKS	
Engine incorrectly timed	*
Spark plug dirty; wrong gap or wrong type	Clean, reset the gap, or replace.
Poor or weak spark	Check the spark plug and wiring.*
Carburetor setting incorrect	Adjust. Refer to **"ADJUSTMENTS"***
Poor grade fuel or water in fuel	Drain and use a good grade of clean fuel.
Engine overheating	Refer to **"MAINTENANCE."**
Engine valves at fault	*
Engine smokes	Adjust the carburetor.*
Oil level will rise due to gasoline in crankcase	Refer to "OPERATING IN COLD WEATHER."
Air filter will become oil and fuel soaked	Refer to "OPERATING IN COLD WEATHER."
Engine leaks oil	Refer to "OPERATING IN COLD WEATHER."
Misfiring	Refer to "OPERATING IN COLD WEATHER."
Other engine problems	*
Excessive oil in air cleaner	Be sure that oil dipstick is fully seated and all excess oil is squeezed out of pre-cleaner foam element.
LACK OF POWER	
Air cleaner clogged	Service the air cleaner element. Refer to **"MAINTENANCE."**
Engine overload	Reduce the load.
Engine overheated	Make sure air intake screen, shrouding, engine fins, and grille are free of accumulated dirt and trash. Refer to **"MAINTENANCE."**
Poor fuel, too rich, or too lean a mixture	Refer to **"ADJUSTMENTS."**
Fuel tank air vent clogged	Open the vent in the cap.
Air leakage between carburetor and engine	Remove air cleaner. Tighten the carburetor and manifold mounting nuts. Replace as indicated in **"MAINTENANCE."**

*See your authorized dealer.

TROUBLE SHOOTING

Possible Cause	Possible Remedy
LACK OF POWER (Cont)	
Incorrect timing or faulty ignition	*
Brake drags	Adjust the brake. Refer to **"ADJUSTMENTS."**
Belt slipping	Adjust the free travel of the pedal. Refer to **"ADJUSTMENTS."***
ENGINE OVERHEATING	
Insufficient cool air, dirty air intake screen, shroud, cooling fins, or dirty grille	Keep the air intake area and cooling fins clean; refer to **"MAINTENANCE."**
Lean carburetor adjustment	Readjust. Refer to **"ADJUSTMENTS."**
Oil level incorrect	Engine oil level must not be over the "FULL" mark or below the "LOW" mark. Refer to **"MAINTENANCE."**

*See your authorized dealer.

LUBRICATION TABLE

Point of Lubrication	Check at Hours	Change at Hours	Capacity	Anticipated Air Temperature		
				Above +32°F	+32° to 0°F	Below 0°F
Engine crankcase	Check before each use	5 hrs then every 100 hrs	4 pints	*Cub Cadet* Low Ash Engine Oil S.A.E. 30	*Cub Cadet* Low Ash Oil S.A.E. 10W-40 or 10W-30	*Cub Cadet* Low Ash Engine Oil S.A.E. 5W-20 or 5W-30
Steering knuckles & front axle pivot bolt	10		Use 251H EP grease or equivalent No.2 multi-purpose lithium grease and apply two or three strokes or sufficient grease to flush out old grease and dirt.			
Front wheel bearings	100 or yearly		Remove front wheels and pack bearings with 251H EP grease or equivalent No. 2 multi-purpose lithium grease and reinstall wheels.			
Steering gear	50		Turn the steering wheel fully to the right and brush on 251H EP grease or equivalent No. 2 multi-purpose lithium grease to the steering gear. Turn the steering wheel in both directions to disperse the grease.			

LUBRICATION GUIDE

The life of any machine depends upon the care it is given. Proper lubrication is a very important part of that care.

e certain that all lubrication fittings are assembled in lace, using the lubrication illustrations as a guide.

lways lubricate the tractor thoroughly before taking it the field. Use a pressure lubricating gun.

e sure all fittings are free from dirt and paint so the bricant is certain to enter the bearing.

ways force the lubricant through the full length of ach bearing until it emerges at the end, carrying with the worn lubricant and any dirt that may have ntered the bearing.

iscellaneous work parts not provided with lubrication tings should be oiled periodically with a good grade lubricating oil.

ıbricant is cheap. Use plenty of it. Worn parts can expensive to replace.

Keep your supply of lubricating oil and grease stored in clean containers, and covered to protect from dust and dirt.

Keep the lubricating gun nozzle clean and wipe dirt from grease fittings before lubricating.

The symbols in the illustration indicate the method of application and the hourly intervals to apply the lubricant.

Use a pressure lubricating gun and apply 251H EP grease (or equivalent No. 2 multi-purpose lithium grease) sufficient to flush out the old grease and dirt. Lubricate at hourly intervals indicated on symbols.

Dipstick, use to check engine oil before each use.

LUBRICATION GUIDE

—BEFORE EACH USE

1. Engine filler cap and dipstick

Check the oil (with the engine stopped) and add sufficient new oil to bring it to the **"FULL"** mark on the dipstick. Do not overfill. Do not operate the engine if the oil level is below the **"LOW"** mark on the dipstick.

—AFTER FIRST 5 HOURS OF OPERATION

2. Engine oil and filter change

While the engine oil is warm, remove the drain plug and drain all of the oil from the crankcase. Replace the oil filter. Replace the drain plug. Refer to **"MAINTENANCE," "FILLING THE CRANKCASE"** for proper oil filling procedure. Refer to **"LUBRICATION TABLE"** for the proper quantity and viscosity to use.

—AFTER EVERY 10 HOURS OF OPERATION

3. Steering knuckles (2) (Both sides)

Use 251H EP grease or equivalent No. 2 multi-purpose lithium grease and apply sufficient grease to flush out old grease and dirt.

4. Front axle pivot bolt (Right side)

Use 251H EP grease or equivalent No. 2 multi-purpose lithium grease and apply sufficient grease to flush out old grease and dirt. **NOTE:** It may be necessary to rotate the front axle to reach the grease fitting.

—AFTER EVERY 50 HOURS OF OPERATION

5. Steering gear

Turn the steering wheel fully to the right and brush on 251H EP grease or equivalent No. 2 multi-purpose lithium grease to the steering gear. Turn the steering wheel in both directions to disperse the grease.

6. Front wheel bearings

Use 251H EP grease or equivalent No. 2 multi-purpose lithium grease and apply two or three strokes or sufficient grease to flush out old grease and dirt.

7. PTO clutch bracket

Use 251H EP grease or equivalent No. 2 multi-purpose lithium grease and apply sufficient grease to flush out old grease and dirt.

—EVERY 100 HOURS OF OPERATION

Speed Control Linkage

8. Engine oil and filter change

While the engine oil is warm, remove the drain plug and drain all of the oil from the crankcase. Replace the oil filter. Replace the drain plug. Refer to **"MAINTENANCE," "FILLING THE CRANKCASE"** for proper oil filling procedure. Refer to **"LUBRICATION TABLE"** for the proper quantity and viscosity to use.

Miscellaneous

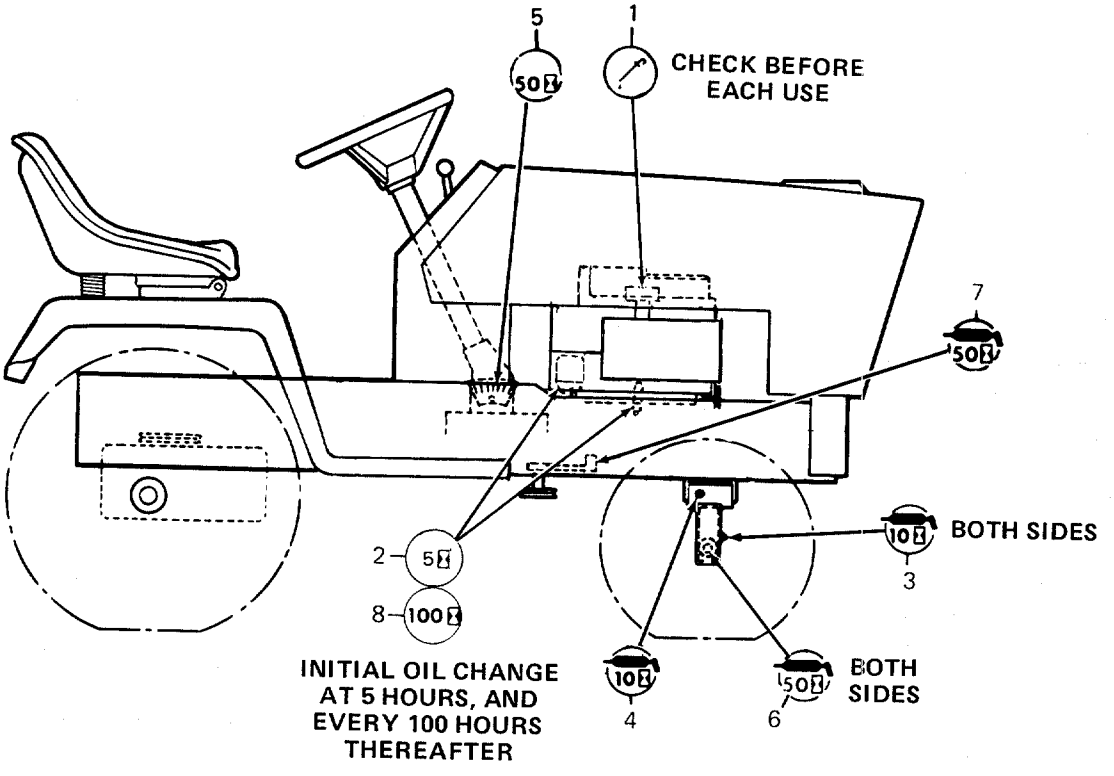
Brake pedal shaft

Lubricate the brake pedal shaft and linkage with eight or ten drops of engine oil.

NOTE

Lubrication information for optional equipment may be found in the manual which is included with the specific piece of optional equipment.

LUBRICATION GUIDE
1405 TRACTOR ONLY



SPECIFICATIONS

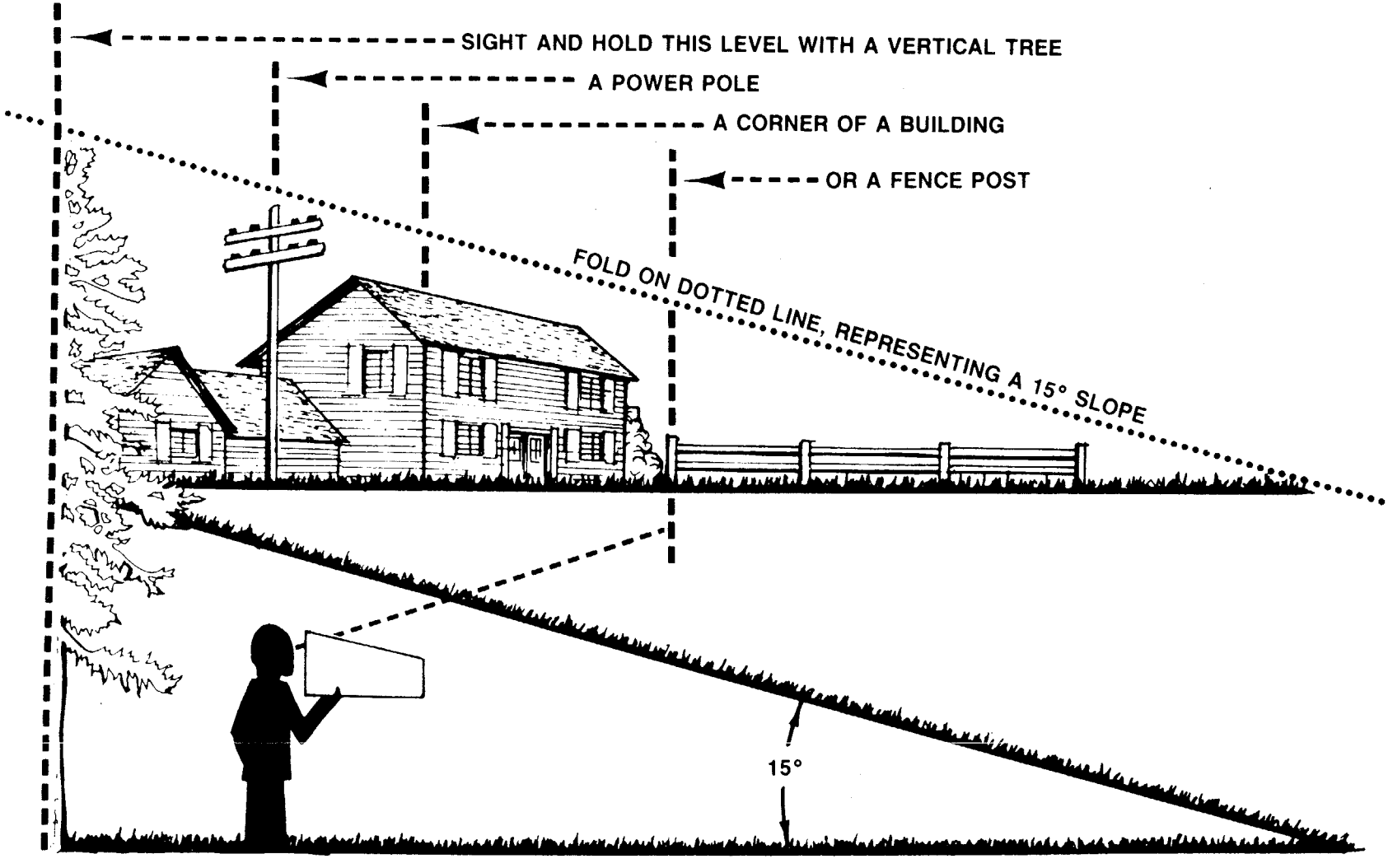
	1405
CAPACITIES	
Fuel tank	3 gals.
Crankcase	4 pints
TRANSMISSION GEARS	5 forward speeds and 1 reverse
Speed: Forward	0 to 5.5 mph
Reverse	0 to 2.35 mph
ENGINE	
Make and model	Kohler
(electric starting)	14 HP
Cylinders	1
Bore	3.43 in.
Stroke	2.64 in.
Displacement (cubic inches)	24.30
Engine speed	(governed)
Low speed	1800 RPM
High idle speed (no load)	3400 RPM ±100
Ignition	Battery
Spark plug	*Cub Cadet* No. 759-3336
Spark plug gap	.040 in. gap
ELECTRICAL SYSTEM	
System voltage	12 volt neg. ground
Battery	1 HPRLU
Alternator	15 amp regulated
Fuse (auto type)	20 amp
Headlights (bulb)	GE 12 volt 1156
BRAKES	Single disc, external
CLUTCH	V-belt
TIRE SIZES	
Front	15 x 6-6
Rear	20 x 10-8
GENERAL	
Wheelbase	45.0 in.
Length, over-all	68.50 in.
Turning radius	29.00 in.
Available mower sizes	38 or 46 inches
Adjustable cutting height (approx)	1-1/2 to 4 inches
Mower drive	V-belt with electric clutch

Specifications are subject to change without notice.

SLOPE GAUGE

(Keep this sheet in a safe place for future reference.)

USE THIS SHEET AS A GUIDE TO DETERMINE SLOPES WHERE YOU MAY NOT OPERATE SAFELY.


SIGHT AND HOLD THIS LEVEL WITH A VERTICAL TREE
A POWER POLE
A CORNER OF A BUILDING
OR A FENCE POST
FOLD ON DOTTED LINE, REPRESENTING A 15° SLOPE
15°

WARNING

Do not mow on inclines with a slope in excess of 15 degrees (a rise of approximately 2½ feet every 10 feet). A riding mower could overturn and cause serious injury. If operating a walk-behind mower on such a slope, it is extremely difficult to maintain your footing and you could slip, resulting in serious injury.

Operate RIDING mowers up and down slopes, never across the face of slopes.
Operate WALK-BEHIND mowers across the face of slopes, never up and down slopes.